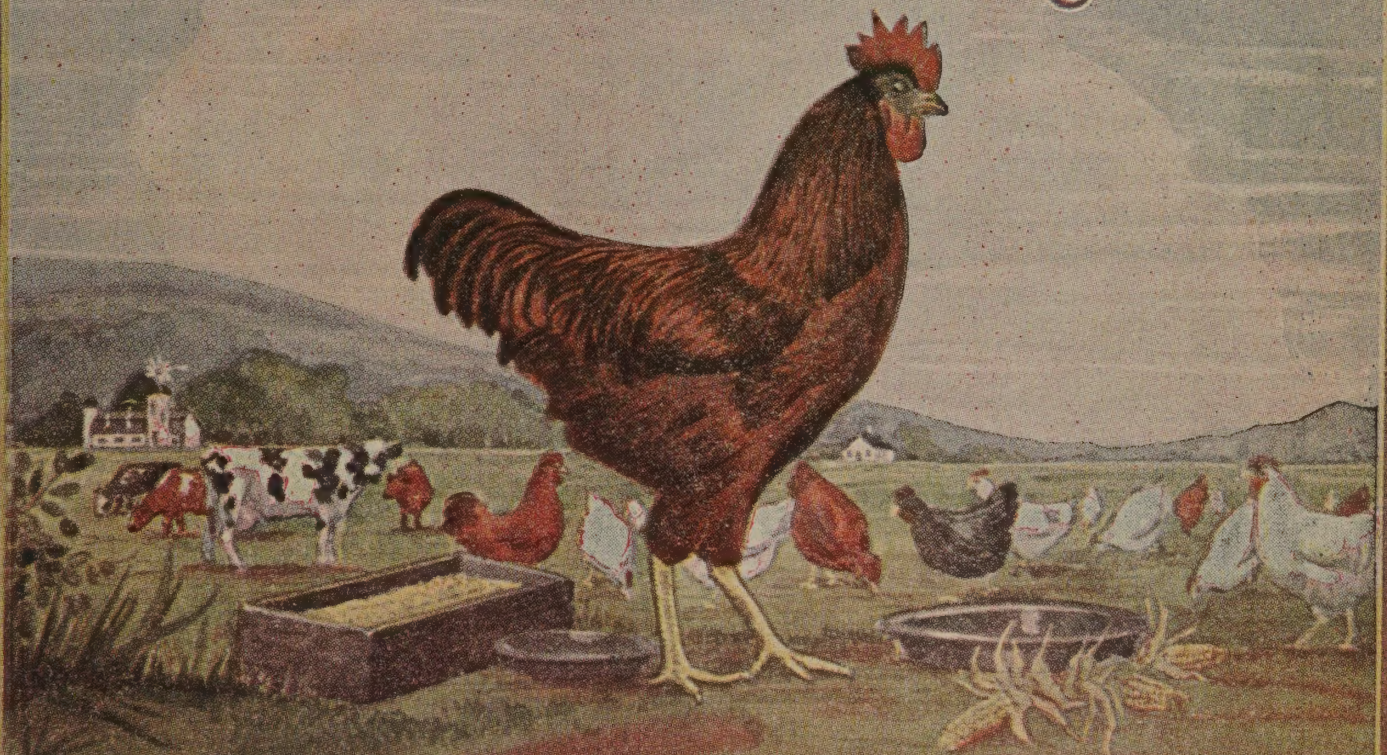


GRANDIN'S RED FLAG FEEDS



Methods of Feeding



D.H. GRANDIN MILLING CO. & JAMESTOWN, N.Y.



I WANT you to feed **GRANDIN'S RED FLAG POULTRY FEEDS** because I know the fine **QUALITY** of each and every ingredient that goes into their making. No salvage or second grade grains and no tannage or low grade beef or fish scrap are used in any of the feeds and I absolutely know that this **QUALITY** can be depended upon in all of the **RED FLAG FEEDS**.

I want you to use these feeds because I know that you can raise more and better chickens. They will reach maturity quicker and in a more natural and healthy condition. Your laying pullets and hens will produce more eggs and far better **QUALITY** eggs, and when you use any of these birds in your breeding pen they will produce a larger per cent of hatchable eggs, because the balance is just right, with the necessary ingredients. No chemicals or medications are used in any of the feeds.

I want you to use **GRANDIN'S RED FLAG FEEDS** because I know that when you buy a bag of feed you pay for the contents of that bag of feed and not for the name or picture on the bag. A comparison of feeds will show you that these feeds do not contain a lot of useless fiber and that they are clean and sweet and free from any disagreeable odor.

I want you to use **GRANDIN'S FEEDS** for one year, a real test, and then I want you to note how much better success you have had in raising your chicks and also how many more eggs are produced by your flock. It certainly will surprise and please you.

I want to help you make a success with your chickens, whether you raise 10 or 10,000. **WILL YOU LET ME HELP YOU?** I want you to feel free to write me at any time you need assistance. My service is absolutely free to you.

Very truly yours,

C. I. DAVIS, Poultry Specialist.

Waterville, Maine.

31 Kelsey Street.

DANIELS'
PEDIGREED
REDS
Bred For Eggs, Type and Color

GRAFTON, MASS.. June 9, 1924

D.H. Grandin Milling Company,
Jamestown, New York.

Gentlemen:

We are often asked about poultry feeds. It has never been our practice to make disparaging remarks concerning any feeds on the market, but, having used the Grandin Red Flag Feeds with excellent results we feel it is conferring a favor on our poultry keeping acquaintances to recommend them as dependable goods. In fact, it is the only feed house to whom we have ever given permission to use our name in recommendation. We are not operating an experiment station, consequently cannot use ALL brands and have always stopped when we have found any article of quality which gives us the desired results.

Our 1924 results to date warrant the continued confidence we have in these products. Ours is a breeding plant and we have shipped eggs to 47 states this year with reports of from 85% to 100% in hatchability. Canada has been as good in reports also.

At this writing we have over 1100 Pedigreed 1924 hatched Reds every one hatched from a Grandin fed egg and reared to date on Grandin feeds. They run all the way from 4 months to a few days in age. Weighed a bunch of February 8th hatched chicks when just 4 months old--pullets 4 $\frac{1}{2}$ to 5 lbs 3 ozs and cockerels from 5 to 6 lbs. Mortality to date exactly 32 chicks.

Proof that Grandin fed hens make fine breeders is had in the work this year of 385 the 262 egg Grandin record hen. Out of 27 eggs set this season from her we now have 26 thrifty chicks. One of her pullets at 4 months weighed 5 lbs 2 ozs.

Chicks show vigor, pep, bright eyes, full firm shanks and smooth close feathering always associated with good health in poultry. Breeding hens and males are in excellent flesh and very active and appear to enjoy life to the utmost.

We are glad to show our Grandin fed Pedigreed Reds to visitors. Our plant-pens, range and office is always open to inspection. We are 8 miles south of Worcester on the state road and only about 3 minutes walk from Grafton Center. Electric car line from Worcester passes our door.

With very best wishes for the Grandin Milling Company,

I am,

Very truly yours,

HAD:P

Herbert A. Daniels

Join the Red Club, Subscribe for the Red Journal.

GRANDIN'S FEEDS for Sale by

J.B. Ham Co, Damariscotta Mills &
Winslow Mills, Me.

GRANDIN'S RED FLAG SYSTEM FOR POULTRY FEEDING

FIRST WEEK—Do not feed chicks for 48 hours. While they will pick at anything bright and sparkling, they really crave very little food until they are at least 48 hours old, feeding before does more harm than good.

Place before them fresh water with the chill off, fine chick grit or sand, and chick size charcoal, also sifted coal ashes are very good if you have them.

Their first feed should be **GRANDIN' RED FLAG BUTTERMILK BABY CHICK STARTER**. Keep this before them all the time in a shallow dish or feeder, so that they may help themselves. After the third day they should be fed a small amount of **GRANDIN'S RED FLAG BABY CHICK FEED** four or five times a day but only what they will eat up clean in about ten minutes, preferably in a litter of chaff, alfalfa or fine cut straw.

SECOND TO SIXTH WEEK—Continue feeding **GRANDIN'S RED FLAG BUTTERMILK BABY CHICK STARTER** and do not neglect to keep the feed hopper well filled all the time. After the third week feed the **RED FLAG BABY CHICK FEED** in a litter three times a day, but only just what they will eat up clean. Now is the time to feed some green feed, such as lettuce, fine cut sprouted oats, Swiss chard, and very young chicks are fond of fresh sod. Get the chicks outdoors as soon as possible, this is very important.

SIXTH TO EIGHTH WEEK—at this time mix **GRANDIN'S RED FLAG BUTTERMILK BABY CHICK STARTER** half and half with **GRANDIN'S RED FLAG GROWING FEED** with **BUTTERMILK** for a few days. Then change to the **GROWING FEED** and keep this before them until they are fully matured. At about six weeks of age they should be changed from the **BABY CHICK FEED** to **GRANDIN'S RED FLAG INTERMEDIATE CHICK FEED**, this should be fed three times a day in a litter if possible, but only just what they will eat up clean.

EIGHTH TO TWELFTH WEEK—Continue **GRANDIN'S RED FLAG GROWING FEED** with **BUTTERMILK** and do not neglect to keep the feed hoppers filled, not even for one day. At about the twelfth week substitute **GRANDIN'S RED FLAG SCREENED SCRATCH FEED** in the place of **INTERMEDIATE CHICK FEED** and feed morning and night only. See that they do not leave any on the ground. They should eat it all up clean each time. This method will prevent their eating dirty, musty grain and will also save waste.

TWELFTH WEEK TO FIVE AND ONE-HALF MONTHS OLD—Continue the **GROWING FEED** until the pullets begin to lay. Then mix half **GROWING FEED** and half **GRANDIN'S RED FLAG POULTRY DRY MASH** with **BUTTERMILK** and keep this in the feed hoppers for two weeks, then change entirely to the **RED FLAG POULTRY MASH** and keep this before them all the time. Give them a light feeding of **RED FLAG SCREENED SCRATCH FEED** in the morning and about one quart to 12 or 15 birds at night.

PULLETS AND YEARLING HENS—Keep the **GRANDIN'S RED FLAG POULTRY MASH WITH BUTTERMILK** before them all the time so that they can have as much as they want and when they want it. **THE GRANDIN'S RED FLAG SCREENED SCRATCH FEED** should be fed about a quart to 12 or 15 hens or pullets once a day, preferably at night, just before going to roost. In the winter it is a good plan to feed a small amount of the **SCRATCH FEED** in the morning in a deep litter. **THIS WILL START** them working and make them hungry for the **REAL EGG MAKER, GRANDIN'S RED FLAG POULTRY DRY MASH** with **BUTTERMILK**. They should have at all times oyster shell, grit, charcoal and fresh water.

GRANDIN'S RED FLAG



BUTTERMILK BABY CHICK STARTER

Raising the chicks has been named as the most difficult "poultry problem" and some poultrymen say that everything else is easy if one begins right, with well born chicks, and feeds right for the first four or five weeks. All who have had any experience in raising chicks know that the first four or five weeks is the most important period. With this thought in view **GRANDIN'S RED FLAG BUTTERMILK BABY CHICK STARTER** was made to take care of the chicks through this period, and it has proven a great success. It contains a liberal quantity of pure Dried Buttermilk, Fine Ground Hulled Oats, Ground Wheat, Corn Meal, Hominy Feed, Wheat Middlings, Calcium Carbonate and Bone Meal. It contains all the materials essential to the health and growth of chicks.

There are a great many chick ailments due to lack of care and improper food. These can be eliminated by using **GRANDIN'S RED FLAG BUTTERMILK BABY CHICK STARTER**, and following the instructions outlined in this book.



If you want strong, sturdy chicks, full of health, vigor and vitality (the power to live) there is one safe and sure way to get them and that is to begin right, with sound, well selected stock and breed and feed for health. The only chick that is profitable is one well hatched and well reared, so that it possesses health and vigor.

When the chicks are 48 hours old they are ready for the first meal. They have either been given water and grit (sand makes good chick grit) or should receive it along with the first meal.

There must be litter placed on the floor, chaff from the hay mow is fine, cut clover or alfalfa, or O. K. Litter is good.

Place the **GRANDIN'S RED FLAG BUTTERMILK BABY CHICK STARTER** in the chick feeder, so that the chicks may help themselves. Have no fear of them over-eating of the starter, the more they consume the faster they will grow.

You will be surprised to see how fast their little feathers will begin to grow. That is one of the wonderful things about **GRANDIN'S RED FLAG BUTTERMILK BABY CHICK STARTER**, it surely is the best feed made to grow feathers on little chicks, and every one who raises chicks knows how important that is.

The value of green food for poultry can hardly be over-estimated. It should form a far greater part of the diet of our poultry than it does. We do not know how much a hen on the range does consume, but we know if she has a chance to follow her own inclinations she will eat grass on range, in the morning, all day, and even at night after her full feed of grain. We all understand that a certain amount of succulent food is necessary in order that the fowl may fully assimilate her other food, but as a general thing the quantity is far too limited. Many flocks that are unproductive during a large portion of the year would doubtless lay well if this one addition were made to their diet. Epsom salts no doubt is a good thing to give the flock once in a while but do not make the mistake and think that it takes the place of green food.

GRANDIN'S RED FLAG



BABY CHICK FEED

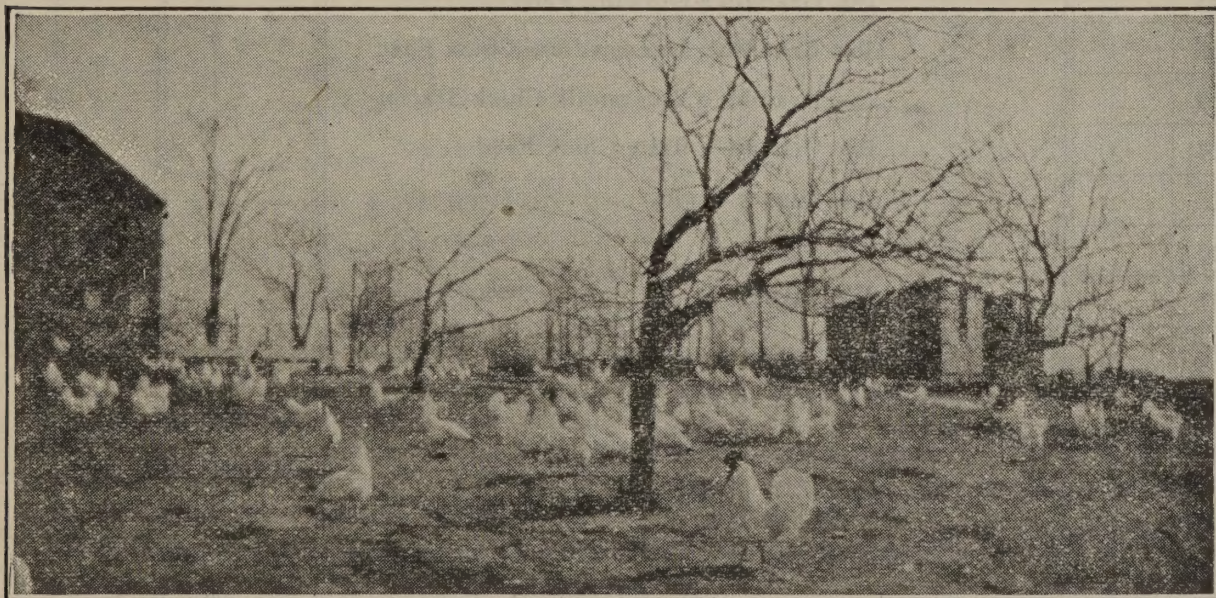
Before we go a bit further, we want to call your attention to the fact that everything used in the manufacture of **GRANDIN'S RED FLAG BABY CHICK FEED** is cracked. This is of much greater importance than a good many think it to be. Just for a moment stop to think of how tiny and delicate the digestive system of the baby chick is. Then think of how much easier it is for this tiny digestive system to work on materials which are cracked than on those which are entirely enclosed in a hard hull.

GRANDIN'S RED FLAG BABY CHICK FEED contains Fine Cracked Corn, Cracked Wheat, Steel Cut Oats, Cracked Milo Maize and Cracked Kafir Corn. It is very clean. There is no fine material or dust which would go to waste, and you get your full weight of good, sound grains.

The chicks require a constant supply of pure drinking water, grit and charcoal. They should be given an opportunity to exercise. After the third day feed a little of **GRANDIN'S RED FLAG BABY CHICK FEED** in the litter to encourage exercise.

Do not buy a chick food if the granulated grain looks bluish or if the food smells musty. Do not feed them sour or spoiled food. Do not feed milk that has been frozen. These are all fatal mistakes and may cause indigestion, diarrhoea and death. In buying chick feed, insist on a guaranty that the food contains only sound, sweet, wholesome grains.

Don't try to raise chicks on board floors. Cover the floor of the brooder or brood coop with fine soil or sand and on top of this the litter. Get them on to the ground as soon as possible. The moisture from the ground and direct sunlight prevents leg weakness.



Flock at Roderick Poultry Farm, Dover, Me.

POULTRY AND EGG RECORD FOR SEPTEMBER

Date	Number of Eggs	Feed and Supplies Purchased			Eggs and Poultry Sold and Used		
		Date	Item	Amount	Date	Item	Amount
1							
2							
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11							
12							
13							
14							
15							
16			Total			Total	
17		Total Receipts as Shown Above					
18		Expenses.					
19		 lbs. Grandin's Poultry Dry Mash					
20		 lbs. Grandin's Screened Scratch Feed					
21		 lbs. Grandin's Growing Feed					
22		 lbs. Grandin's Intermediate Chick Feed					
23		 lbs. Grandin's Buttermilk Chick Starter					
24		 lbs. Grandin's Baby Chick Feed					
25		 lbs. Oyster Shells					
26		 lbs. Grit					
27		 lbs. Litter					
28							
29							
30							
31		Total Expenses for month					
Total		Profit for month					

POULTRY AND EGG RECORD FOR OCTOBER

Date	Number of Eggs	Feed and Supplies Purchased			Eggs and Poultry Sold and Used		
		Date	Item	Amount	Date	Item	Amount
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16		Total			Total		
17		Total Receipts as Shown Above					
18		Expenses.					
19		lbs. Grandin's Poultry Dry Mash					
20		lbs. Grandin's Screened Scratch Feed					
21		lbs. Grandin's Growing Feed					
22		lbs. Grandin's Intermediate Chick Feed					
23		lbs. Grandin's Buttermilk Chick Starter					
24		lbs. Grandin's Baby Chick Feed					
25		lbs. Oyster Shells					
26		lbs. Grit					
27		lbs. Litter					
28							
29							
30							
31		Total Expenses for month					
		Profit for month					
Total							

GRANDIN'S RED FLAG

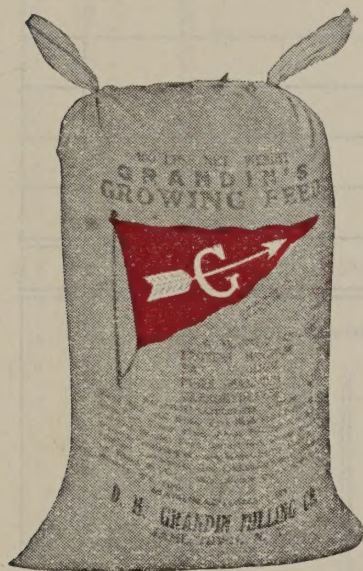


GROWING FEED

Someone has said, "In proper feeds and feeding lies the secret of success with poultry." In respect to success with chicks, no statement could be more true.

There is no better Growing Feed on the market today than **GRANDIN'S RED FLAG GROWING FEED with BUTTERMILK**. It supplies them with all the natural elements of food value, and grows them to a strong, sturdy and early maturity.

When the chicks are 5 or 6 weeks old their ration can be changed from **GRANDIN'S RED FLAG BUTTERMILK BABY CHICK STARTER** to the **GROWING FEED**. This gives them a wide variety to feed upon, and should be kept constantly before them. It contains the best known ingredients for growing every part of the chick; bone, muscle, meat and feathers. It has no equal, that is why the flocks of chicks fed on **GRANDIN'S** Growing Feed look so uniform, and mature so fast. And let us tell you a **secret**, this is the feed that the wise poultrymen are using for a moulting feed, it can't be beaten.



Palatability, without question one of the most important factors in poultry feeding, is seldom if ever considered by poultrymen. In order to get the best out of any feed it is absolutely important that the feed be relished and enjoyed by the hens and chicks.

GRANDIN'S RED FLAG GROWING FEED with BUTTERMILK is very palatable because it contains a large variety of the best ingredients. It is really a wonderful feed and should be kept before the chicks all the time in one or more hoppers or boxes. **REMEMBER** the **FEED** and **FEEDING** is the key to success in chick raising.

BREEDING FOR HEALTH

Food and housing conditions being right, the best way to make sure of sound constitutional vigor is to breed for health. So far as possible avoid breeding from stock that has been weakened by disease, particularly by severe constitutional disease. Disease can be "bred out," but it is a long, hard, up-hill pull.

Breed chiefly from adult stock, yearlings, two-year olds, and even older if they are in prime condition and from Standard bred and heavy-laying stock. If pullets and cockerels must be used for a mating, mate them with adults of opposite sex if you can, but in any event be sure that the young stock is well matured, full grown and properly fed.

Pick your breeders with a clean health record and for soundness of body, wind and digestion. Do not use deformed, crooked breasted, knock-kneed, wab-bly-legged birds for breeding. Do not permit same or similar defects on both sides of same mating. Make sure of good bone, good size, Standard type, and abundance of vitality and vigor in all selections for the breeding pen.

Keep them in good condition by good feeding, proper housing and good management.

GRANDIN'S RED FLAG



INTERMEDIATE CHICK FEED

Beyond a shadow or doubt, feeding is the most important factor in raising chicks. Right feeding starts, and constantly develops the little body along lines of vigor, health, sturdiness and vitality. Nothing is more important, nothing counts for as much in the results you get later.

When chicks are five or six weeks old they prefer a larger cracked and whole grain ration than our **GRANDIN'S RED FLAG BABY CHICK FEED**, so at this time discontinue this feed and start feeding **GRANDIN'S RED FLAG INTERMEDIATE CHICK FEED**. This feed contains Wheat, Cracked Yellow Corn, Kafir Corn, Milo Maize, and Hulled Oats. That's all. We do not put Buckwheat in this feed as it contains so much fibre that it is hard to digest, and they seem to know this as they, in most cases, will not eat it until forced to. We also want to call your attention to the large percentage of Hulled Oats and the **QUALITY** of all the ingredients. There is not a better **INTERMEDIATE FEED** made at any price.

Care should be taken in buying even the best advertised chick foods to make sure that you obtain a fresh made, pure, sweet article that is free from mouldy or musty grain. Cracked grain loses something in feeding value as it ages and it is more liable to spoil than whole grain. Never use any chick feed that smells musty or mouldy or that has been stored in a warehouse for six months to a year. Buy only freshly prepared chick food that is sweet, clean and bright. Cheap, spoiled, old or damaged food will kill your chicks. Don't take any chances with poor food.



E. L. Littlefield, Kennebunk, Me.

POULTRY AND EGG RECORD FOR NOVEMBER

Date	Number of Eggs	Feed and Supplies Purchased			Eggs and Poultry Sold and Used		
		Date	Item	Amount	Date	Item	Amount
1							
2							
3							
4							
5							
6							
7							
8							
9							
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11							
12							
13							
14							
15							
16		Total			Total		
17		Total Receipts as Shown Above					
18		Expenses.					
19		 lbs. Grandin's Poultry Dry Mash					
20		 lbs. Grandin's Screened Scratch Feed					
21		 lbs. Grandin's Growing Feed					
22		 lbs. Grandin's Intermediate Chick Feed					
23		 lbs. Grandin's Buttermilk Chick Starter					
24		 lbs. Grandin's Baby Chick Feed					
25		 lbs. Oyster Shells					
26		 lbs. Grit					
27		 lbs. Litter					
28							
29							
30							
31		Total Expenses for month					
Total		Profit for month					

POULTRY AND EGG RECORD FOR DECEMBER

Date	Number of Eggs	Feed and Supplies Purchased			Eggs and Poultry Sold and Used		
		Date	Item	Amount	Date	Item	Amount
1							
2							
3							
4							
5							
6							
7							
8							
9							
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13							
14							
15							
16			Total			Total	
17		Total Receipts as Shown Above					
18		Expenses.					
19		 lbs. Grandin's Poultry Dry Mash					
20		 lbs. Grandin's Screened Scratch Feed					
21		 lbs. Grandin's Growing Feed					
22		 lbs. Grandin's Intermediate Chick Feed					
23		 lbs. Grandin's Buttermilk Chick Starter					
24		 lbs. Grandin's Baby Chick Feed					
25		 lbs. Oyster Shells					
26		 lbs. Grit					
27		 lbs. Litter					
28							
29							
30							
31		Total Expenses for month					
Total		Profit for month					

**GRANDIN'S
RED FLAG**



**DRY MASH
WITH BUTTERMILK**

THE REAL EGG MAKER

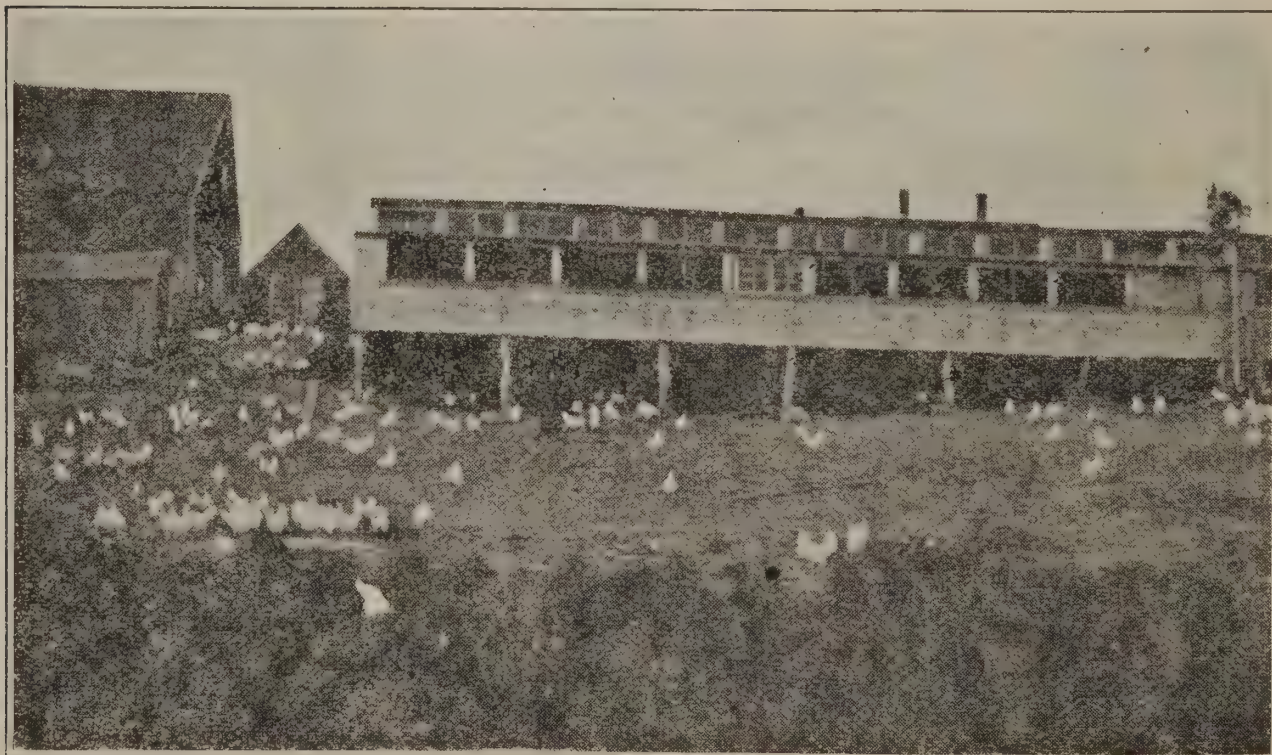
SAFETY FIRST. There is no place where these two words mean more to the poultry breeder than in selecting a laying mash for his flock, as it is this feed that links good stock with good care and spells profit in the poultry business both for the back lot poultry breeder and the commercial poultry farm.



The "**SAFETY FIRST**" laying mash contains the best quality of ground grains, meat, fish, bone, dried buttermilk and green cut alfalfa. Any laying mash which lacks any of these is not health-giving nor egg-producing, both of which are essential to success in poultry keeping.

GRANDIN'S RED FLAG DRY MASH WITH BUTTERMILK is the "**SAFETY FIRST**" laying mash as it contains the proper proportions of these ingredients. The very best quality of each obtainable is used and this can be absolutely depended upon in each and every bag.

When you **INSIST** on **GRANDIN'S RED FLAG DRY MASH** you are playing safe always. In asking your dealer for a dry mash, **DON'T** say that you want a bag of dry mash, but say **GRANDIN'S RED FLAG** as this is **SAFETY FIRST**.



Clarence Tolman, Warren, Me., White Leghorn Poultry Farm.

GRANDIN'S RED FLAG



SCREENED SCRATCH FEED

PLAY SAFE! In these days of keen competition, the poultry breeder needs to give careful consideration to the selection of a scratch feed for his flock for, in a great measure, the health and production is dependent upon the quality of this feed.

The poultry breeder who wishes to play safe, **INSISTS** on **GRANDIN'S RED FLAG SCREENED SCRATCH FEED** as it is the cleanest Scratch Feed on the market. The **QUALITY** is the **BEST** always and this same **QUALITY** will be found in each and every bag.

A variety of grains more fully nourishes the many complicated parts of the bird's anatomy, and results in healthier and stronger fowls with increased vitality. Laying hens are more subject to disease, acquire pernicious habits of egg eating, feather pulling, etc., simply as a result of the natural craving of an appetite unsatisfied. Given a carefully balanced ration they acquire none of these bad habits.

GRANDIN'S RED FLAG DRY MASH and **SCREENED SCRATCH FEED** are carefully balanced to niche into one another for health and egg production.

Variety and Quality are the essentials for best results in a Scratch Feed. Cracked corn or cracked corn and oats do not make a scratch feed. Although it would be necessary for the hens to scratch if this were fed in a litter the necessary variety is lacking. Furthermore, practically all the cracked corn obtainable contains meal and hulls which increases the cost of this feed.

We compound our feeds for the purpose of getting results, and not for working off of by-products. Keep in mind when you buy **RED FLAG SCRATCH FEED**, that every kernel is sweet and clean, and that only the very best materials obtainable are used in its manufacture.

RED FLAG SCRATCH FEED should be fed, about a quart to 12 or 15 hens, once a day preferably at night just before going to roost. In winter a small amount should be given in the morning in the litter. This will start them working and make them hungry for the **REAL EGG MAKER, RED FLAG DRY MASH** with **BUTTERMILK**.

MEDICINES AND TONICS

Tonics and medicinal foods, while they will undoubtedly help fowls of unsound constitution, are not desirable, since, if we are to have and keep healthy fowls, we must breed from birds that do not require constant doping. Healthy fowls and chicks will do their best without the use of condiments. Feeding conditioning powders and the like to healthy birds is like whipping up a horse that is doing his best to pull a heavy load, and is bound to bring about discouraging results. The less doping the fowls and chicks get the better. A good grit is necessary to health, as is also granulated charcoal. Whenever a tendency to looseness of the bowels is noted the addition of charcoal to the mash will produce good results. If constipation proves troublesome a little linseed meal added to the mash usually corrects the trouble. Preventive medicine in the form of drugs is not necessary where good, clean, sweet poultry feeds are used.



POULTRY AND EGG RECORD FOR JANUARY

Date	Number of Eggs	Feed and Supplies Purchased			Eggs and Poultry Sold and Used		
		Date	Item	Amount	Date	Item	Amount
1							
2							
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14							
15							
16			Total			Total	
17		Total Receipts as Shown Above					
18		Expenses.					
19		 lbs. Grandin's Poultry Dry Mash					
20		 lbs. Grandin's Screened Scratch Feed					
21		 lbs. Grandin's Growing Feed					
22		 lbs. Grandin's Intermediate Chick Feed					
23		 lbs. Grandin's Buttermilk Chick Starter					
24		 lbs. Grandin's Baby Chick Feed					
25		 lbs. Oyster Shells					
26		 lbs. Grit					
27		 lbs. Litter					
28							
29							
30							
31		Total Expenses for month					
Total		Profit for month					

POULTRY AND EGG RECORD FOR FEBRUARY

Date	Number of Eggs	Feed and Supplies Purchased			Eggs and Poultry Sold and Used		
		Date	Item	Amount	Date	Item	Amount
1							
2							
3							
4							
5							
6							
7							
8							
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13							
14							
15							
16			Total			Total	
17		Total Receipts as Shown Above					
18		Expenses.					
19		 lbs. Grandin's Poultry Dry Mash					
20		 lbs. Grandin's Screened Scratch Feed					
21		 lbs. Grandin's Growing Feed					
22		 lbs. Grandin's Intermediate Chick Feed					
23		 lbs. Grandin's Buttermilk Chick Starter					
24		 lbs. Grandin's Baby Chick Feed					
25		 lbs. Oyster Shells					
26		 lbs. Grit					
27		 lbs. Litter					
28							
29							
30							
31		Total Expenses for month					
		Profit for month					
Total							

WINTER POINTS OF PRIME IMPORTANCE

Beware of the winter months. You may win or lose during the few weeks from November to March. There are eight or ten little points to be observed in the successful care of fowls. Neglect one and you may as well neglect them all.

(1) Care

We put this first because first things should be put first. You neglect your fowls in winter for one single day at your financial peril. The man with a dozen in his back-yard six-by-eight house knows the meaning of this better than the ten-thousand-egg poultry farmer.

Proper care three times a day for three hundred and sixty-five days in the year is the price that must be paid for success that is worthy of the name in the twentieth century poultry yard. It is the man who "thinks" that they will be "all right" if he does not look after them the third time who falls short in profits. The man who neglects the second trip in his daily care of the layers will not only **fall short** but will be almost certain to fail utterly. Remember this first commandment.

(2) Floor Room

A hen is as much of a social being as a human being is. Poultry love to "flock together,"—like many other kinds of birds. But Nature created them for the great out-of-doors. Every point in their anatomy speaks of the large outlook and the wide range. They are native to the limitless wilds.

While intensely social by nature, therefore, their dumb souls cry out for ROOM! ROOM! We are getting them bred down pretty successfully to live in large flocks in comparatively small space. But the poultryman's judgment must be constantly on the alert lest the instinct of the feathered and winged creatures of the great open spaces of the world shall revolt and cut the egg production in half or defeat it completely.

More than "standing room" is required. At least four square feet of floor room to the bird must be insisted upon. Below this minimum average you run the risk of absolute failure at every point of your business.

(3) Constant Employment

"Satan finds some mischief still for idle hands to do." This familiar poetical proverb is just as true with regard to the feet of the laying fowls in winter. They must be interested and active.

Watch them during the natural re-productive season. The whole bird creation is working to the limit of physical endurance fifteen hours of every twenty-four. An idle bird in mating time is a most unnatural thing. Continual and interested activity in pursuit of food is the natural, normal, and necessary condition to right reproduction work—and the laying of eggs ought to be just the kind of work whether it is in December or May.

Keep them employed, therefore. I am convinced that thousands of poultrymen fail at this point. Scatter the **GRANDIN'S RED FLAG SCREENED SCRATCH FEED** in deep, clean straw litter. Take special care to mix the grain all through the straw. You would never be able to find it all with your hands and your eyes; but the ancestors of the fowls in your pens dug their living from deep leaves and jungle dirt for a hundred thousand years or more. Health, vigor, vitality, everything depends on such continual and interested activity. Look to this if you desire a large egg production and strong young stock in the spring hatches.

(4) Balanced Rations

This is "up to you". Fowls in confinement are at the mercy of the man who cares for them. Let them out in the open on a good range in mid-summer and they will lay fairly well as it is the natural time for birds to produce. But in winter they are penned up within four impassable walls. They must therefore take what you give them.

Feeding hens is one of the most important factors in producing eggs, and

properly balanced, palatable feeds are necessary to get good egg production. Hens can be kept in fair health and life supported with poorly balanced or too limited rations, but they will not produce profitably and the extra cost for a good balanced ration to get results pays a big return. Eggs are highest in price usually in late fall and early winter, and in order to get eggs at that time in any considerable quantity they must be properly fed.

Safety First

There is no place where these two words mean more to the poultry breeder than in selecting a laying mash for his flock, as it is this feed that links good stock with good care and spells profit in the poultry business both for the back lot poultry breeder and the commercial poultry farm.

The **"SAFETY FIRST"** laying mash contains the best quality of ground grains, meat, fish, bone, dried buttermilk and green cut alfalfa. Any laying mash which lacks any of these is not health-giving nor egg-producing, both of which are essential to success in poultry keeping.

GRANDIN'S RED FLAG DRY MASH with BUTTERMILK is the **"SAFETY FIRST"** laying mash as it contains the proper proportions of these ingredients. It smells good because the animal protein is good quality and this is what is necessary in order to produce a good quality egg. This is one of the "Points of Prime Importance."

(5) Blizzard-Proof Quarters

Our northern climate is treacherous. Give it half a chance and it will defeat your purest and most lofty aims in poultry success. This is a familiar point. Not one of us ought to be in need of light here. But the fact remains that thousands of poultrymen are victims of their own neglect in not putting up the right kind of fight against the ruthlessness of old Jack Frost. They take too much for granted.

A bright day with a slight suggestion of spring in the tang of it prompts them to let the birds loose into a slushy snow and ice cold water. The result is a cut of from fifty to seventy-five per cent in egg production—sometimes a complete stoppage. This is not right. Again, a small neglect in keeping the windows of the henhouse closed will mean an overnight surprise. By daylight the damage is done. It will take a month to get back to the regulation pace.

This point means not only persistent and thoughtful daily care to protect the birds against slush and frost; but it means proper protection in their sleeping quarters. The curtain should be dropped every cold and windy night that



F. M. Piper, 13 Travers St., Rockland, Me. S.C.R.I. Reds. 9 weeks old from trapnested stock.

heat may be conserved and drafts defeated. It's amazing how much the daily and nightly comfort of the fowls mean. Here, too, defeat or victory may turn.

(6) Liberal Allowance

The man who does not feed plentifully will not gather eggs plentifully. This is not at all the question of the balanced ration. It is the problem of the sufficient ration. With feed high in price there is a deadly snare laid at the feet of every poultryman. It is the constant temptation of shortening the allowance to the point of danger.

Experiments have proved that hens that are fed liberally will not only lay more eggs than hens that are fed scantily, but that their eggs will hatch better. In fact the hen that is underfed will be quite likely to stop laying altogether—while if you will increase her allowance beyond the point required for mere bodily support, she will rise promptly to her highest power of production. Care must be exercised, however, that fowls of the breeds that tend easily toward over-fatness be fed less scratch feed and that they be compelled to exercise regularly and hard.

(7) Scientific Management

“Scientific Management” is in the air. We think it and talk it and breathe and try to practice it. It means hard work down to the smallest items of our business lives. It means making the most out of our poultry by using a balanced ration. It means the saving of time—which means the saving of labor.

There is a science in the doing of everything. The successful man is the man who can bring his system down to correspond closely to the eternally right method. The demands of these present times are overwhelmingly insistent on just this line. We must do things correctly. The poultryman who isn't ready to put his “gray matter” into his business with all his might is passing through perilous days. No “hit-or-miss” methods will do.

(8) Intelligent Optimism

Note the first word “Intelligent.” We advise no man to rush forward blindly. Investigate. Think your personal problems out for yourself. Every man is peculiar. Every man's business prospects are peculiar. If you can't get the optimistic point of view, you may as well quit. But do not forget that the universal feeling among those who are best able to judge is that we have entered upon the most prosperous period that the poultry business ever passed through. Surely eggs and poultry meat must come to their own among the essential food materials of the world.



Austin C. Rogers, West Gardiner, Me., White Plymouth Rocks.

CULLING

Quality and Condition

Many poultry keepers do not receive the maximum income from their flocks due to the fact that they do not know which hens are producing and which are not. Hens are not all good layers and it does not pay to keep a single hen that does not lay enough eggs to cover the cost of the feed which she consumes.

By spending a little time examining the birds it is possible to detect which of your flock are laying down on the job and which are bringing in the profits in the form of eggs. The unprofitable ones should be disposed of at once so that you can divert all of your efforts towards increasing the production of those which have the necessary laying qualities.

(1) Select hens at the end of their laying year according to the following characteristics:

We find that the best individuals in the flock have heads that indicate strength, vigor, vitality and constitution by being wide, broad, deep and rather medium in length. The eye is clear, bright, prominent, and well set out from the head. The keenness and alertness of the eye are a sure indication of the activity and vigorous disposition of the bird. There is perhaps no clearer representation of the bird's actual ability than the indications that are revealed in the eye.

The face of the higher producing bird is clear-cut, entirely free from coarseness, wrinkles and puffiness. The rate of speed of production can quite readily be measured by the quality of the head as coupled with the vigor of the bird.

Contrasted with this type of high producing head we have two extremes that can be associated with slow rate of speed and low production.

(1) Low Vitality Heads—The hen lacking in vitality most generally has a long head, slender, pointed, and lacking in width and depth. Associated with this type of head is the less prominent eye, at times sunken and lacking in brilliancy and alertness. Many times the head will be very fine, short and pointed. Hens that have this type of head nearly always have many rest periods, and their total egg production is not as much as it should be.

(2) Coarse Heads—The other extreme of heads that is quite frequently found is the rather masculine, coarse, meaty-headed birds. These birds have the vigor, vitality and constitution, but instead of having the ability to lay over long period of time at a high rate of speed, consequently making a good egg record, their tendency is to lay on fat rather than to produce eggs. This type of head can be described in the following manner: An eye not very prominent, usually being partly hidden by the overhanging eyebrow and the heavy eyelid. The face, instead of being clean-cut, is coarse, wrinkled, puffy and has a rather thick, full appearance.

We find that hens of this type, while they may lay over a long period of time, do not have the speed of production to lay the maximum number of eggs that is desired.

(3) Color of Head. In hens that are in laying condition the comb, wattles and face will be filled with blood and will be bright red in color. However, if the hen becomes broody, out of condition, quits laying or moults, the comb and wattles instead of being bright red in color and filled with blood will present a dull appearance, often-times yellowish in color and lacking in blood. Do not discard a bird just because her comb is shrunken, and she is not in laying condition. She may be a good producer, temporarily not in laying condition.

Type

For a hen to lay a maximum number of eggs it is absolutely essential that she possess capacity. Capacity can be obtained in many ways. The reason for requiring capacity is that the hen must have room to house a digestive system so as to take care of a large amount of feed required for the production of the maximum number of eggs.

Coupled with the digestive system are the reproductive organs where the eggs are manufactured. Unless the bird has sufficient capacity for the function-

ing of both the digestive and reproductive organs it is impossible for her to manufacture eggs fast enough so that it is possible for her to lay at a high rate of speed. Some hens are capable of laying 28 to 30 eggs in their best months while others cannot lay more than 12 to 15 and even less.

The body type that is usually considered the most desirable is found in hens that have a rather level back, deep, full breast, and square, full abdomen or body. This gives a rather rectangular appearance. If the bird lacks in width however, capacity is not obtained. It is absolutely essential that the bird stand squarely, knee and hock joints well set apart with the shanks and feet placed directly underneath the bird. This gives the bird a symmetrical, well-balanced appearance.

Conformation

The conformation can best be determined by handling the hen. It is well to follow out some definite system so that all parts will be handled. The length as well as the width of the back should be measured. The hand can be placed just back of the wings and carried with the thumb on one side and the forefinger on the other side the full length of the bird. Note particularly whether the bird carries the width uniformly or whether it tapers from the hips to a point. If such is the case the bird lacks in capacity. The depth from the top of the back to the point of the keel bone should be measured, also the width of the pelvic arch. This measurement is far more essential than the width between the pelvic bones.

The length of the keel should be measured by allowing the front of the keel to rest in the palm of the hand with the finger extending towards the end. This gives not only the length of the keel but also the position. If the keel bone is curved or rocker type it lessens the capacity. If the keel is straight but extends towards the back, the capacity is lessened, while if the keel points downward it gives a maximum amount of capacity. In not all cases does the bird with the longer keel have the greater capacity. The position of the keel affects the capacity of the bird as much as the length. Capacity must always be figured relatively according to the size of the bird.

Quality can be described as being fine, medium or coarse. With high egg production we find the finer quality. This is determined by a pliability of the abdomen, looseness of the skin, thinness of the pelvic bones and flatness of the shanks. For a bird to lay a large number of eggs it is necessary that she be in good flesh and physical condition. Quality that is associated with poor conformation, low vitality and thin fleshing does not mean as much as where it is associated with the correct type conformation and head.

On the other hand, if a bird lacks in quality of the head, abdomen, pelvic bones and shanks and is well fleshed, we can assume that in most cases she does not have an especially high rate of speed.

Legs and Toes

While legs and toes are considered to some extent under quality and conformation, we like to consider them separately on account of the loss of pigment in yellow shanked varieties. We find that a bird that lays continuously over a long period of time will lose the yellow color from the shank starting from the inside of the shank and working towards the front, and the pigment will disappear last from the back of the shank. When the hen stops laying, the yellow pigment returns more rapidly than it goes out.

It is not safe to lay too much emphasis upon the loss of pigment because feeding conditions, vitality of the birds and other factors may influence the loss of pigment. Some emphasis can well be placed upon pigmentation where it is associated with other factors.

Molt

Molt is a factor in the selection of high producing hens that is more variable than any of the others. Change of feed, severe change in weather, undue handling and many other factors will throw birds into a temporary molt and in many

cases cannot be used satisfactorily as a guide. However, it has been found that quick molt is nearly always associated with high egg production, while slow molt is associated with slow rate of speed and less egg production. In most cases the high producing birds will carry their feathers longer and will consequently be later molters than the poorer producing birds.

Type of Males

We have not been able to find out as many distinguishing characteristics in the male bird as in the females. However, there are some outstanding characteristics that should be kept in mind. Wherever it is possible, male birds that are pedigreed and known to come from high producing hens should be used to head the flock. The male is one half the flock, and for that reason considerable care should be taken that the right kind of a male bird is used.

Where it is impossible to secure pedigreed male birds, it is advisable to select individuals that are up to standard size and possess vigor. The same indications that are used in the selection of females may be used in the selection of a male for determining vigor and vitality. Males should possess quality of head, depth of body, length of back and uniform carriage of width thruout. Masculinity is of great importance and should not be overlooked in the selection of a male to head the flock.



N. L. Gammon, West Peru, Me.—“White Wyandottes.”

HATCHABILITY

There are very few who will dispute the fact that hatchability is something entirely distinct from fertility. Eggs may be fertile enough and yet fail to hatch or hatch out very poorly. The thing that accounts for this difference is the sort of feed and care that the breeding stock has had during and prior to the time the hatching eggs were collected. If the eggs are to hatch strong, sturdy, livable chicks there must be ample vitamins. The mineral content of the egg is equally important.

Analysis of mineral salts contained in egg yolk shows: sodium, potassium, calcium, magnesium, iron, phosphoric acid (free and combined), silicic acid and chlorine.

Mineral salts in egg albumen show: sodium, potassium, calcium, magnesium, iron, chlorine, phosphoric acid, carbonic acid, sulphuric acid, silicic acid, fluorine.

Egg shell is composed of calcium and magnesium carbonates about 97%, calcium and magnesium phosphates about 1%, keratin and water about 2%, iron a trace.

The egg is particularly rich in iron, lime and phosphorous in combination and in easily absorbable form. Seven egg yolks contain sufficient iron to supply

the needs of an average man for 24 hours. The above indicates briefly the key to mineral food requirements of a laying hen. She must produce her eggs from a surplus above her body requirements. Consider also that each hatching egg, if it is to yield results, must contain material to make the complete chick, muscles, bones, blood and vessels, skin and feathers, brain, nerves and all vital organs complete even the vital spark of life itself.

When one recalls how some flocks have to struggle for existence under difficult conditions and at the mercy of a careless, indifferent or ignorant attendant, it is a wonder that so few chicks die in the shell.

If you are not already feeding **GRANDIN'S RED FLAG DRY MASH with BUTTERMILK**, begin now as it will mean more eggs, a healthier flock and hatchable eggs from your breeding pen next spring.

BUYING FOUNDATION STOCK

Many beginners become disappointed and discouraged with the progress they are making, because their birds do not do well or come up to their expectations, when the fault really lies in the inferior quality of their foundation stock. Many beginners, as we have noticed, let the price govern their purchase rather than quality.

If foundation stock is purchased that has not good breeding qualities back of it, or if it is not from good blood lines, it is expensive at any price. In starting your breeding operations, you will receive results according to the price you pay. Any specialty breeder, who has spent a lot of time in perfecting a strain, whether he be a large breeder or a back lot fellow, can send out better quality for the money than the firm or breeder who quotes a cheap price. Ofttimes you can purchase better birds from a small specialty breeder, one who only raises a few and who culls closely each year, than you can from a larger poultry farm.

If you want to make a success of poultry keeping, buy good standard foundation stock. If you want quality, pay the price of quality. Buy the best birds you can afford.

THOROUGHBREDS versus MONGRELS

With the advancement being made along all lines today it seems there should be a more practical analysis made, by every person who keeps poultry, of the relative value and profit between mongrels and thoroughbred chickens. This should apply to all whether they keep ten birds or hundreds, as the principle is the same.

A flock of thoroughbreds speak of the taste of the owner; they go hand and hand with neat, up-to-date buildings, and well kept grounds, and make the passer-by think of the owner as a man who is "up to snuff." Notwithstanding the advantages of the foregoing, we still see the typical flock of mongrels coupled with rundown buildings and ill-kept places quite often. As a general rule a flock of pure bred chickens is not found on a place that advertises the slovenly tastes of the owner.

But how often we hear people say, "Oh, I don't want 'fancy' chickens, I want those that will lay eggs and make a good meal." The word "fancy" misleads them. They think a fancy bird, for some reason, must necessarily be merely an ornament and of no practical value whatever. This is most unfortunate, as we can assert with the greatest confidence that our prominent fanciers of today are realizing as large an egg yield as persons who confine themselves to propagating monstrosities of varied color and size.

Even supposing a person has fair success with a flock of mongrels for a year or two, what will the results be after this? Probably the flock contains birds gathered from many sources which have in their system the germs of roup or other ailments to which poultry not properly bred and housed are subject. These will sooner or later manifest themselves to the discouragement of the owner, and will in all probability be the means of adding another to the list of those who say the business is a failure.

Yes, the initial outlay was likely a little less than for birds of known quality and value, but the outcome proved that the first cost is not always a criterion of the economical properties of the purchase.

Another one of the cardinal points in the argument for thoroughbreds is that it costs not a cent more to feed a fowl of established parentage than a scrub. Besides the feed goes to develop a bird which will prove of value to the owner and an object which will attract the friend or visitor who may chance to view them, and, though they may not admit it, there are but few persons who would not like to possess a bird that won first prize at this or that show.

This is the day of progress, and why should not the mongrel fowl be sent to the discard the same as many other antiquated things which we are better off without?



Red Feather Farm, Norway, Me. H. M. Goodwin, Prop.

FEEDING FOR EGG PRODUCTION

The egg yield of the poultryman's flock is governed almost entirely by the method of feeding the layers. Experiments have proven that a hen receiving a ration containing the proper amount of the right kind of proteins, carbohydrates, minerals and vitamins and in exact proportion to the composition of the egg will invariably prove a profitable layer. In other words the feed must represent a balanced ration containing the proper amount and proportion of yolks, whites and shell-forming materials.

The complete balanced ration is that which maintains the hen's body in a healthy, vigorous condition and at the same time supplies the greatest equal number of whites and yolks for a maximum egg production.

It is a mistake to think hens cannot lay eggs in winter! They can, and will, if they receive the proper feed. Give them plenty of feed that contains egg-making materials such as they pick up in the spring—a feed that has an abundance of the much-needed animal and mineral feeds and they will lay heavily throughout the winter.

Actual tests have proven that the hen fed a balanced ration will lay three or four times as many eggs as the hen fed the unbalanced ration. It will cost you only a few cents more to feed a good balanced ration, but the result in eggs will pay you well for the extra amount invested.

Remember that a hen cannot grind and digest enough scratch feed to supply the egg-making material required for heavy laying and cracked corn and oats are far less satisfactory and more expensive than a good screened scratch feed.

The actual production of eggs during the winter season is one of the best paying propositions that the poultryman has to cater to. At that time of year when fresh eggs are scarce and high in price a greater profit is assured to those who will try for it. It rests with the poultry keeper to increase his production by care and proper feed.

A FATTENING FEED

Marketing thin, unfinished birds is wasteful and the sale of such birds has an unfavorable effect on the market. The consumption of table poultry would be greatly increased if fowls never went to market in poor condition. There is always a demand for good birds, whatever their age, if they have been properly fed and finished.

Birds of any age which are culled from the flock should be kept in close confinement and fed with **GRANDIN'S RED FLAG GROWING FEED with BUTTERMILK and CORN MEAL 50-50**, so that the muscles will be softened and fat deposited in the muscular tissues instead of in solid chunks of fat in the abdomen. The gain will cost less than that secured at any period of growth. Frequently two weeks of fattening will more than double the producer's profit.

Penned fowls make better gains than those yarded, but less than if fattened in crate, because of the exercise. Pen-fattening takes more floor space than crate-fattening. Not over fifty birds should be kept in a pen, and about a square foot and a half of space should be allowed for each bird. There should be just sufficient light for the birds to see to eat. The darker the pens, the more contented the birds will be; but the pens must be well ventilated and clean.

In crate-fattening there will be an additional eight to ten per-cent of increase and the flesh will be of better quality. The crates used for fattening should have slatted or wire bottoms which will permit the droppings to fall thru. Their food is fed in troughs in front of the crates.

Mix **GRANDIN'S RED FLAG GROWING FEED with BUTTERMILK and CORN MEAL 50-50** with water or milk and feed three times a day all they will clean up. Do not water. The mixture will contain moisture enough. From 10 to 14 days should be allowed for fattening.

MORE EGGS BY ELECTRIC LIGHTS

Although the use of electric lights in the poultry house does not greatly increase the total annual egg production of hens, it does increase the yield during the winter months when the price is high and is therefore profitable.

An average length of day of from 12 to 13 hours gives the best results. Adding the extra light in the morning is the most convenient method, although some poultrymen use lights both morning and evening. The hours added to the hens' working day should be the same in either case. Making the day longer than 13 hours forces the birds too much.

When lights are used in the evening some arrangement for dimming them is required so that the hens will go to roost before they are turned out entirely. Wire your henhouse so that the switches can be operated from the kitchen.

When artificial lights are used the hens must be fed more. In fact, the object of the plan is to give the hens an opportunity to eat more with the result that they will be forced to lay more eggs, providing they are of a laying strain. **GRANDIN'S RED FLAG DRY MASH with BUTTERMILK** should be available at all times and **RED FLAG SCREENED SCRATCH FEED** should be used in deep litter to make them exercise. A feed of grain should be put in the litter at night so that the hens can go to work as soon as the lights go on in the morning.

It is important to have plenty of fresh water handy so that the hens can get it whenever they are eating. In the winter when lights are turned on automatically in the morning some provision must be made to keep the water from freezing when it is kept in the house all night. Some breeders are using an electric light with a carbon bulb immersed in the drinking water. The bulb is tightly covered with a piece of black cloth so no light is thrown into the pen.

As a general rule it is only profitable to use artificial lights on pullets, and the best results are obtained on well-matured pullets. Hens to be used for breeders should not be forced for egg production with electric lights during the period just preceding the breeding season, as forced laying at that time is apt to cause poorer hatches and produce weaker chickens than would be obtained from hens kept under normal winter conditions.

IMPORTANT POULTRY DISEASES

PREVENTION BETTER THAN CURE

REMEMBER that it is much easier to keep the birds healthy and well than to cure them after they are sick. You are therefore urged to guard against disease by giving your fowls and chicks proper care at all times. Keep in mind the following: Lice, mites, filth, **POOR FEED**, dirty water, damp houses, drafts, and lack of care and attention breed disease. Sunlight, fresh air, clean houses and runs, **GOOD FEED**, fresh water, and good care and attention mean health, vigor, and profit.

APOPLEXY—Apoplexy is the result of a ruptured blood vessel of the brain and the pressure of the blood that escapes therefrom. It is caused by exertion or straining during laying or too stimulating feed. Fat hens are often found dead on the nest or they may drop dead from the roost from the same cause.

TREATMENT—The attack is so sudden that treatment is not practical, and preventive measures should be instituted, and for this see that fowls have plenty of exercise and a properly balanced ration.

BUMBLE FOOT—Bumble foot is caused by jumping from too high roosts, by hard floors not properly covered with litter, or injuring sole of foot in some other manner. It is usually indicated by a hard calloused area on the bottom of the foot or lameness.

TREATMENT—Open abscess, remove pus and wash with hydrogen peroxide and then oil with camphorated oil. If the matter gathers again clean once more and swab out with tincture iodine.

BAGGING DOWN—Bagging down is often seen in hens that have been fed too much corn. The rear part of the abdomen is crowded with fat and hangs down, sometimes nearly to the ground. The ceasing to feed corn and other fat-producing foods will sometimes remedy this condition, but a bird that has been allowed to get into such shape is spoiled for life both as a layer and breeder. Breed only from hens with long keels and feed **GRANDIN'S RED FLAG DRY MASH**.

BRONCHITIS—Bronchitis is caused by exposure to cold or dampness, drafts of cold air. The symptoms are rapid breathing, rattling throat, cough, inflammation of bronchial tubes.

TREATMENT—Correct conditions give two grains of black antimony in mash daily; flaxseed tea to drink.

CANKER—Canker may be caused by diphtheria and roup, from wounds that become infected. Unsanitary conditions, with dampness; musty or moldy litter and spoiled grain can also be considered as possible causes. Symptoms: Cheesy patches in mouth and on tongue.

TREATMENT—Whenever the canker can be removed without causing injury or bleeding this should be done before applying the remedy. Wash sores with hydrogen peroxide and apply tincture iodine.

CANNIBALISM—Chicks often develop the habit of pecking at each other's toes, eyes, etc., sometimes with serious results. They have been known to kill and eat their companions. This is cannibalism and is generally caused by too close confinement and an insufficient supply of green and animal food, par-

ticularly a lack of green food. Another cause given for this "toe picking" is that of feeding soft or wet mash so that the chicks can get into it with their feet. This mash gums up or forms little balls on the toes of the chicks and in picking at it they draw blood and thus form this bad habit of picking each other's toes. The habit once formed is difficult to control and the worst offenders should be at once removed or killed.

TREATMENT—Divide the chicks into smaller flocks and provide them with a good clean litter of chaff, cut clover or alfalfa and have it deep enough so they will have to exercise freely to get the chick feed. See that they are plentifully supplied with **GRANDIN'S RED FLAG BUTTERMILK BABY CHICK STARTER** in addition to green food. Remove all chicks with bleeding toes and dip the toes in tincture of iodine or pine tar, and isolate until the smell of blood has disappeared.

CATARRH OR COLDS—Is caused by improper housing conditions; exposure to cold or dampness, crowding on roosts at night and subsequent sweating. Symptoms: Sneezing watery discharge from eyes and nostrils. Discharge may dry on nostrils, stopping it, causing breathing with open mouth and watery eyes, with bubbles in corners.

TREATMENT—Wash affected parts with three percent solution of boracic acid. If discharge is quite watery when first noticed, spirits of camphor in drop doses, given on bread crumbs or a little sugar, repeated four or five times daily, will usually cure.

CHICKEN POX—This rarely attacks full grown birds but usually is seen in the fall of the year on partly matured stock. The head, face and underside of wing are the ordinary seat of the sores or ulcers that constitute the prominent feature of chicken-pox.

TREATMENT—Apply carbolated vaseline to the ulcers twice a day. Avoid damp houses and exposure to rains. Remove the scabs and dust with iodoform.

CONSTIPATION—This is caused by a lack of exercise or to improper feeding, lack of green food. Symptoms, frequent attempts to evacuate the bowels, stoppage of bowels, clogged vent.

TREATMENT—Give purgative of Epsom salts or castor oil.

CROP BOUND—Crop bound is usually caused by digestive disorders or improper feeding, the result of the fowl eating dry grass, wire grass, straw or leaves, etc., which form into a tangled mass and cannot pass beyond the crop. Hens in confinement crave green food and unless given it in some form will eat the litter given to scratch in. Hens that are fed on **GRANDIN'S DRY MASH WITH BUTTERMILK (THE REAL EGG**

IMPORTANT POULTRY DISEASES

(Continued)

MAKER) rarely get crop bound, because it contains green cut Alfalfa.

TREATMENT—Give the bird a tablespoonful of castor oil, and force it to swallow, then knead carefully the hard mass. If successful in softening it, hold the hen head downward and try to push the substance along and out the mouth. If swelled grain is the cause of the trouble, you will probably be successful; but if it is dry grass, straw or leaves, you will have to open the crop. If someone will hold the bird for you it will make the operation more easy. Pluck out a few feathers, and then cut through the skin over the crop, about one inch long with a sharp knife or razor, than make an incision three-fourths of an inch long through the crop with a button-hook, gently remove the mass through the opening, being careful to clean the crop thoroughly. Then run the finger into the crop, and make sure there is nothing remaining to obstruct the outlet. When sure all is right take three or four stitches in the opening of the crop, then do the same thing in the skin. Common cotton thread can be used for stitches. Keep the bird by herself for a week, feeding soft food.

CHOLERA—Cholera may either develop in the poultry yard from unsanitary conditions or they may be introduced by contagion carried by new birds which are added to the flock, by birds which have been to exhibitions, by wild birds which fly from one poultry yard to another. Symptoms: The appetite is lessened and there is a watery diarrhoea. The bird is sluggish, rough plumage, great thirst, drooped wings, head dropped, and eyes half closed. The discharge later becomes yellow, while in a healthy bird it is white, and it generally turns green as the disease progresses. The comb becomes dark.

Treatment—Look for the cause of the trouble and remove it—this is very important. Separate sick birds at once. Disinfect thoroughly all pens, runs, and utensils used by the birds with carbolic acid. Take equal parts of sulphur, powdered alum, ginger and copperas. Add a teaspoonful of the mixture to mash once a day for a dozen birds.

COCCIDIOSIS—This disease is caused by a small organism called coccidia attacking the intestines and sometimes other organs, such as liver and lungs, but usually the trouble is confined to the caeca or "blind gut." The disease is seldom seen in chicks under two weeks or over four months of age. Ordinarily chicks affected do well until a few weeks old, when they begin to look unthrifty, droop and gradually die. Entire flocks may die in a few weeks.

Symptoms: Drooped wings; crow-headed appearance; listlessness; chicks are wobbly; no control of body, resembling a paralyzed condition; water discharge; drying and hardening of skin on shanks and body.

TREATMENT—Restrict the grain feeding and compel greater food consumption of **GRANDIN'S RED FLAG GROWING FEED**. This may be accomplished by giving one feed a day moistened with milk or water. Provide tender, succulent green food in liberal quantities and provide plenty of shade.

Put one-third teaspoon of crude catechu in each gallon of the water given the birds to drink.

This form of contagion is very difficult to destroy, and the most active disinfectants should be used in the houses and yards. A mixture containing 5 per cent of compound solution of cresol is not too strong. The bodies of the birds which die should be burned.

DIARRHOEA — This is a more prevalent with chicks than fowls, chicks suffer from this quite young, whether raised in brooder or with mother hen, and may be caused by chills resulting from exposure to cold or to low temperature in the brooder, and improper incubation before they are hatched. Lice, improper food, wet, and sloppy food and mashes, feeding too soon, a lack of grit, eating food which has been thrown down in their own filth.

TREATMENT—The remedy is to first find the cause and remove it if possible. Feed only **GRANDIN'S BABY CHICK FEED**, as all of the grains and seeds are cracked which makes it easier for their digestive system, and is always clean and free from dust. **GRANDIN'S BUTTERMILK STARTER** contains all the materials essential to the growth of the chicks and the dried buttermilk which it contains is a preventive as well as one of the best remedies for bowel troubles in chicks.

PROLAPSE OF THE OVIDUCT—This is due to a weakness of the tissues, constipation or birds being over fat, also straining and laying oversized eggs. Oviduct protrudes from the vent, appearing swollen and inflamed.

TREATMENT—Wash the protruding parts with disinfectant solution, grease with carbolated vaseline and replace the oviduct. Give a heavy dose of Epsom salts and lots of green food.

Birds fed on **GRANDIN'S RED FLAG DRY MASH** with **BUTTERMILK** rarely are affected with prolapse of the oviduct.

DEPLUMING MITES—Depluming mites is a parasite that attacks the roots or the base of feathers; they break off leaving bare spots. Will quickly spread through an entire flock. Usually found in spring and summer.

TREATMENT—The affected spots of the skin from which the feathers have dropped out should be anointed for some distance around them with an ointment made by thoroughly mixing sulphur and lard or vaseline. Apply at least twice with an interval of a week or ten days.

DIPHTHERIA—Diphtheria is a dangerous and quite fatal disease. It is contagious, being given by one bird to another, directly or through the medium of food or drinking water. The cause, improper housing and filth. Symptoms: High fever with gray spots in the throat; discharge from nostrils; bird sits with back arched, head and neck drawn toward the body. Swallowing is difficult and the bird stretches its neck and gaps. Later there is a slight discharge from nostrils, and a sticky fluid, with string-like pieces mixed with the fluid from the mouth.

TREATMENT—To successfully handle this

IMPORTANT POULTRY DISEASES

(Continued)

disease the bird should be in a warm room of even temperature. The discharge should be carefully wiped off the mouth and throat. Then with a metal or quill tube blow sulphide of calcium in fine white powder all over the mucous membranes. This should be done three or four times a day. If the patient is able to take food, put one grain of the calcium sulphide into a little warm mash, and give before each application of the powder to the throat.

EGG-BOUND FOWLS—A hen so affected will be seen to visit the nest repeatedly without result. She will show distress, with a depression of the wings and tail. The stoppage may be the result of the contraction of the egg passage, or of an abnormally large egg. In the latter case the remedy is easy.

For large eggs, which can be discovered by an examination of the bird, the vent should be softened with salad oil, followed by an injection of the same if this is not effective within an hour. Great care must be taken in handling or making an injection, for if the egg be broken the result will probably be fatal.

Benefit has been derived also from the holding of the bird above a jug of hot water, allowing the steam to enter the vent. Contraction of the vent is generally accompanied by inflammation, either the cause or the result of the contraction. This can be discerned by the heat of the part, and the feverishness of the bird.

EGG EATING HABIT—The egg eating habit may arise from eating soft shelled eggs, eating egg shells that have not been finely crushed. Sometimes the lack of animal food seems to create an appetite for egg-eating. Nest boxes without proper filling often lead to broken eggs.

TREATMENT—Feed a well balanced ration, making birds scratch for all grain. **GRANDIN'S DRY MASH** with **BUTTERMILK** is a **REAL EGG MAKER** and one of the best balanced rations made. Have all nests dark as possible, well supplied with straw, and china nest eggs. In some cases we have found it necessary to pare the beaks down until they almost bleed, then scatter china eggs where the hens can get at them. The pared beaks are extremely sensitive at first and pecking the hard china eggs causes such pain as soon to make them lose their appetite for egg-eating.

FEATHER-EATING—This is due largely to laziness on the part of the birds over-feeding and crowded flocks, lack of exercise and in some cases the lack of animal food. Rarely does this habit develop among fowls that have free range and that are fed a balanced ration.

TREATMENT—Keep **GRANDIN'S DRY MASH** with **BUTTERMILK**. (**THE REAL EGG MAKER**) before them all the time and make them work hard for all scratch feed fed in a deep litter, allow plenty of house room and runs. In some cases it may be necessary to apply an ointment of some bitter substance, such as quinine or aloes mixed with vaseline, to the feathers where they are being eaten.

FAVUS—Favus is caused by a germ which develops in filth. It is very contagious. It

generally begins on the comb or wattles and is shown by gray or white, round or irregular spots, multiplying, forming a thin whitish covering over the diseased surface. The disease spreads to the neck and other parts of the body and the feathers drop out.

TREATMENT—Separate afflicted birds at once, and thoroughly disinfect house, utensils, and runs. Apply glycerine to soften scabs then rub off with a blunt instrument. Oil the sore surface with an ointment made by mixing one part oleate of zinc and ten parts vaseline. Do this once a day until the eruption disappears.

FROST-BITES—Apply snow to remove the frost. Mix 5 parts of vaseline, 2 parts glycerine, 1 part turpentine and gently rub the affected parts two or three times a day.

GAPES—Gapes is a disease of chickens which develops during the first few weeks of their lives and is made evident by frequent gaping. It is caused by a parasitic worm which attaches itself to the internal surface of the windpipe. The eggs of this worm live a long time in the soil and are sometimes taken into the digestive tube of the earth worms. In badly infested ground a considerable proportion of the earthworms may, if eaten be capable of causing the disease in chicks. These facts explain why ground upon which chickens are raised year after year becomes so badly infested, and how the infection is carried over from one year to the next. Symptoms: Difficulty in breathing, mouth opens frequently and gapes or gasps for breath. Chick stands around with head down and feathers ruffled.

TREATMENT—Put the chicks in a basket and swing back and forth through the fumes of burning sulphur. Put chicks in box covered with muslin. Dust air slacked lime through the muslin to induce sneezing and dislodgment of the worms. The best method of prevention is to put the chicks, when hatched, on fresh ground.

GOING LIGHT—Going light is a condition where the fowls gradually become very much emaciated without an apparent cause. It is supposed to be caused by a germ which affects the small bowel, especially that portion next to the gizzard. Symptoms: Great loss of flesh, lack of appetite, and diarrhoea; dejected appearance and listlessness.

TREATMENT—Disinfect the poultry house with carbonal or carbolic acid, 1¼ ounces, 1 gallon of water. Take equal parts by weight of powdered gentian, black antimony, carbonate of iron, ginger, charcoal and two parts baking soda. Give a teaspoonful in mash for every ten hens.

HEAD LICE—SLEEPY DISEASE—Head lice are a constant menace to young chicks. They fasten themselves about the head and become so numerous in a short time that they soon sap the life of the chick.

TREATMENT—Pure lard. Apply a few drops to top of head and under throat and wings, rubbing into the feathers.

INDIGESTION—This trouble is due to irregular feeding, decomposed or mouldy feed, lack of exercise and grit, or the absence of

IMPORTANT POULTRY DISEASES

(Continued)

green food.

TREATMENT—Keep **GRANDIN'S DRY MASH with BUTTERMILK (THE REAL EGG MAKER)** before them all the time, and feed **GRANDIN'S SCRATCH FEED** in a deep litter, a very little in the morning and just what they will clean up at night. This is a real balanced ration. Always provide birds with a good supply of sharp grit and fresh water. **GRANDIN'S DRY MASH** contains green cut Alfalfa which is very important for fowls that do not have free range or grass runs and to a certain extent takes the place of green food, which is so important in preventing indigestion.

INFLAMMATION OF THE LIVER—

This disease often follows congestion of the liver, which is the result of over-feeding especially stimulating food, or condiments, such as pepper, ginger or mustard. The symptoms are sluggishness, loss of appetite, yellowness of the comb, wattles and eyes.

TREATMENT—Carefully regulate the diet, do not over feed, avoid stimulants, especially pepper and ginger. Give one-half to one grain of calomel, one hour later give one teaspoonful Epsom salts. The fowl should be kept where it is dry and should have plenty of fresh air. Feed only easily digestible foods, stale bread or oatmeal gruel are best.

INTESTINAL WORMS—These parasites are among the most persistent ones to combat. Flocks infested with worms are exceedingly unprofitable. A vigorous appetite is usually present—but in spite of this there is a general wasting away; a slight diarrhea and symptoms of indigestion may accompany this trouble; also the face and comb are pale, legs usually weak, staggering or St. Vitus dance.

TREATMENT—Starve the birds the night before or give very little feed. Mix 4 ounces Turpentine, 4 ounces olive oil. Give one teaspoonful to adult fowls in the morning and at night give each bird one-third teaspoonful Epsom salts. Repeat in seven days.

LICE—There can be no success with poultry if they are troubled with lice. A lousy hen is a poor layer, eats much, but puts on no flesh, and easily falls prey to disease.

TREATMENT—Supply a good dust bath of road dust, mixing in sulphur or tobacco dust or other insecticides. Paint the roosts with Crenoid or other good liquid lice paints. The dropping board should be cleaned two or three times a week. If possible cleaning every day is best.

LIMBER NECK—Limber neck is caused by the hens or chicks eating dead birds or animals lying around the lot or farm. It is not the maggots that are eaten that cause the disease, but the decayed flesh of the carcass itself. Germ life in destroying the meat gives out a poison that paralyzes the nerve centers.

TREATMENT—The first thing is to clean out the rotting mass in the intestines by use of Epsom salts or castor oil, and then add sulpho-carbonate zinc to the drinking water for a week, about ten grains to each quart.

LEG WEAKNESS—Leg weakness in fowls is caused by exposure, close confinement in damp houses, to feeding too much fat-forming

material, such as corn or other foods rich in fats. The cause of leg weakness in chicks, is lack of bone building and bone strengthening material, too close confinement with lack of exercise and to keeping on a board floor too long with lack of moisture.

TREATMENT—Avoid the causes as far as possible. Feed **GRANDIN'S SCRATCH FEED** only once a day and only just what they will eat up quite quickly and this preferably at night. Keep the **GRANDIN'S DRY MASH with BUTTERMILK, (THE REAL EGG MAKER)** before them all the time. In chicks the feeding of **GRANDIN'S BUTTERMILK STARTER** will almost invariably correct this trouble as it contains bone and muscle building material in proportions necessary to promote strong growth.

MITES—The most common is the red or gray mite, which breeds in cracks and crevices about the poultry house. They will be found wherever filth is allowed to accumulate, breeding under heaps of manure, in cracks or joints of the roosts, in filthy and dirty straw. They are white or grayish when empty, and red when full of blood. They drive sitting hens from their nests and kill chicks.

TREATMENT—The first thing is to clean up and remove all filth and uncleanness from and about the poultry houses, and to make the quarters sanitary, and keep them so. Provide the fowls an ample dust bath of clean, fresh earth. Mix one gallon kerosene oil and one half pint crude carbolic acid. Paint the roosts, and spray inside of poultry house. The old oil drained out of the crank case of an auto is excellent for painting roosts, to control mites.

PNEUMONIA—This is an inflammation of the air cells of the lungs. In the large majority of cases it proves fatal. The cause is close confinement in warm houses, followed by a sudden exposure to a cold, damp storm. The open front scratch sheds and houses for fowls, and for chicks too, will do more to prevent pneumonia than medicine will to cure it. Chicks not feathered, caught out in a heavy rain, easily contract pneumonia—and such cases are usually fatal.

TREATMENT—Give one drop Tincture aconite every two hours in milk. Feed nothing but raw eggs and milk until the breathing becomes easier. Give no solid food for at least forty-eight hours. Feed easily digestible and stimulating soft food while convalescent.

RHEUMATISM—While this is a disease affecting all parts of the body, the prominent symptoms are those located in the legs. Rheumatism may result from long exposure to cold and moisture. It may be produced by overfeeding of meat and is most likely to appear during damp winter weather. Symptoms are swollen joints, lameness, and contraction of the muscles. Fowls are subject to rheumatism, but the fatal cases are few. Brooder chicks exposed to the evils of damp soil or dark, cool hovers furnish many cases of rheumatic trouble, the losses from the disease being large.

TREATMENT—The suggestion for treatment also indicates the line to be pursued in the prevention of rheumatism. The fowls should be housed in dry and sunny quarters

IMPORTANT POULTRY DISEASES

(Continued)

Give as large a variety of green vegetables as possible. **GRANDIN'S DRY MASH with BUTTERMILK (THE REAL EGG MAKER)** contains green cut Alfalfa which is very beneficial in preventing and curing rheumatism. Swollen joints or muscles can be rubbed with witch-hazel. For internal treatment there is no better remedy than iodide of potassium in their drinking water, fifteen grains to every quart of water.

ROUP—The term roup has been applied to nearly all poultry diseases accompanied by the symptoms described as frothy eyes and running discharge from the nostrils. All colds, may have these symptoms, but every cold is not roup. Roup is always accompanied by the familiar foul smell. The odor is peculiar to the disease, and is very lasting and penetrating and when once recognized there is very little danger of ever mistaking any other disease for roup. The general symptoms are: Discharges at mouth and nostrils, swelled head, offensive breath, difficult breathing, canker spots and exhaustion. Roup is the result of close air, extreme variations in temperature between day and night, damp houses, draughts, improper food and filthy water.

TREATMENT—When the disease first makes its appearance, remove every sick bird from the flock as soon as you can find it, clean up and use a good disinfectant, like creolin, sulpho-naphthol or carbonal, freely about the houses and runs. If the disease is taken in hand early it can frequently be stamped out by using a creolin spray. Mix one teaspoonful of pure creolin in a gallon of water. With a spray pump, spray this solution about the poultry houses after the birds have gone to roost. Spray it about the heads of the birds so that they may inhale the vapor. It will cause a great deal of sneezing and coughing. This treatment every night for ten days or two weeks will cure many cases of colds and mild cases of roup.

SCALY LEG—Scaly legs are caused by a minute insect or parasite, which burrows under the scales of the legs, causing a crust-like appearance. It passes from diseased to well birds on the roost, or is contracted by chicks when with the mother hen. A case of scaly leg in the flock is a source of danger to every other bird, but is so easy to cure that no intelligent poultryman is excusable for its presence on his place.

TREATMENT—Make an ointment by mixing sulphur and lard or vaseline. Apply every other night for a week working it into the rough scales. Very bad cases can be cured more quickly if ointment is spread on legs thickly and wrapped with a rag. Another good remedy is to dip the legs in kerosene oil, holding them there one minute.

SOFT-SHELLED EGGS—Anything that excites or inflames the oviduct tends to produce soft-shelled eggs. Worms in the bowels may cause irritation enough to hurry the expulsion of the egg. Over fat hens are apt to lay these eggs. The cause may be the lack of oyster shells, grit, green food, improper feed and feeding, also the lack of exercise.

TREATMENT—Oyster shells, grit and fresh water before them all the time, also Grandin's Poultry Dry Mash, as this contains green cut Alfalfa which is beneficial in preventing and correcting the laying of soft shelled eggs. **GRANDIN'S SCRATCH FEED** should always be fed in deep litter to force them to exercise, feed only once a day, preferably at night. In cold weather a little may be fed in the morning.

VENT GLEET—Vent-gleet always begins with a hen, generally from a broken egg, causing septic inflammation. It is propagated in copulation and hence may spread in a yard or be introduced by an infected male. A hen found with it should be at once isolated and the male carefully examined, and if necessary isolated and treated. Symptoms, white offensive discharge which collects on the skin and feathers about the vent, causing irritation and inflammation. This sometimes causes Canker of the vent if not given attention.

TREATMENT—Make a warm solution of one teaspoonful Carbonal in two quarts of warm water, and bathe the vent for five or ten minutes, then dry the parts and dust with iodoform.

WHITE DIARRHOEA—This is a disease that kills chicks up to four weeks of age, if a chick gets by that age it is likely to live. The germ of the disease may be within the chick when hatched, may be taken in from the shell of an infected egg in the picking on the incubator floor, or may be eaten with food, or taken with drink, in the first few days of the chick's life. A single chick with the illness well established can by means of the droppings, spread it quickly to the whole bunch. The symptoms, are a listless, drowsy, inactive, ruffled and dull appearance. They brighten up for a moment, pick for food, and suddenly grow dull again. With it all comes the single symptom that gives the name of the disease. This is a thin bowel discharge, white in color, pasty, sticky. Often sticking to the down about the vent, dries, and accumulates until the opening is completely closed. This condition unless soon relieved will in itself bring about the death of the chick. The first step in the prevention of the disease lies in the selection of eggs from stock that is known to be free from the disease germs. When you find that white diarrhoea develops a day or so after chicks hatch it is reasonable to suspect that the parent stock is infected. When the disease develops later it may be due to infected incubators, Brooders, Coops or infected ground on which the young chicks have been placed.

TREATMENT—This is almost entirely of preventative character. Disinfect premises with creolin or carbolic acid disinfectant. Give laxatives and tonics to adult fowls. It has been found that the use of sour milk or buttermilk is one of the best remedies for white diarrhoea. Feeding **GRANDIN'S BUTTERMILK STARTER** for the first few weeks will be found one of the very best ways to not only help prevent white diarrhoea but all other bowel troubles in baby chicks.

GRANDIN'S STOCK FOOD

GUARANTEED ANALYSIS

Protein	not less than	9%
Fat	not less than	5%
Fiber	not more than	12%
Carbohydrates		55%

MANUFACTURED FROM:

Corn Meal, Corn Feed Meal, Hominy Feed, Wheat Middlings, Ground Barley, Oat Meal Mill By-Products (Oat Middlings, Oat Hulls, Oat Shorts) and one half of one percent Salt. (Wheat Middlings may contain ground screenings not exceeding mill run).

If it was possible to make a better horse feed than Grandin's, they, with their **NINETY-ONE** years of milling experience, would be sure to make it.

A good way to test the value of Grandin's Stock Food is to feed one of your double team horses on it for two months and note how much better he will do than his mate fed on some other feed.

GRANDIN'S HOG FEED

GUARANTEED ANALYSIS

Protein	not less than	18%
Fat	not less than	5%
Fiber	not more than	10%
Carbohydrates		50%

MANUFACTURED FROM:

Linseed Oil Meal Coconut Oil Meal, Wheat Middlings, Corn Meal, Corn Feed Meal, Hominy Feed, Digester Tankage, Calcium Carbonate, Alfalfa Meal and one half of one per cent Salt. (Wheat Middlings may contain ground screenings not exceeding mill run).

Here is a table showing the comparative feeding values of **GRANDIN'S HOG FEED**, Corn Meal, and Standard Middlings.

	Protein Pct.	Fat Pct.	Fiber Pct.
Grandin's Hog Feed.....	18	5	10
Corn Meal	9	3	5
Standard Middlings	14	4	11

GRANDIN'S HOG FEED shows up pretty well, doesn't it?



In the picture above you get a view of the farm buildings of the Riverton Dairy, Woodfords, Maine, owned by J. W. Smith. They are large users of Grandin's Twin Six Dairy Feed.

WHY CALL YOUR UNPROFITABLE COWS BOARDERS?

Generally speaking boarders are kept for the profit made by so doing, not for the pleasure of having them around and under-foot. But for the past few years it has become a custom with farmers and dairymen the world over to call their unprofitable cows, BOARDERS. We wonder if these animals are entitled to such an honorable name, would it not be appropriate to call them Parasites; Parasites of the dairy industry? They are surely eating up the profits of the higher producing cows in the herd and keep looking sleek and fat while doing it. Many times they are pointed out by their owners as fine animals. This should, and would not be so, if their owners kept books on what these cows were doing. There is no question, but what if a bunch of these Parasite cows were put by themselves and fed only the amount of feed which they could pay for, they would starve to death in a very short time.

If every low-producing cow in the country could be sent to the slaughter-house for beef, it would not only reduce the surplus milk which is the ban of every dairyman but would make such a condition impossible again for many years to come. It would also reduce the consumption of dairy feeds to such an extent, that it would have considerable influence on the future price of these feeds, because as we all know, supply and demand regulate the price of all necessities, and at present the demand for dairy feeds is greater than the supply.

There are, undoubtedly many cows now producing milk at a loss, that would show a nice profit, if fed and handled properly. Of course these cows should be given a chance, but it would be far better to kill a few good cows than to let all of the poor ones live.

When the time comes, and come it must, that every farmer, no matter whether he keeps one cow or one hundred, weighs his milk and keeps individual production and cost records of each cow in his herd, and follows this up by using nothing but pure-bred sires on his herd the worst of the dairymen's problems will be over. Such a method of bookkeeping would probably mean the reduction by 25 to 50% of the number of cows now being kept. It would undoubtedly mean less work and shorter hours for the farmer, fewer hired men for their wives to board, but it would be the means of paying off some of the farm mortgages and giving them some of the comforts which make life worth living. It would also mean better times for everybody, because unless our farmers are prosperous the rest of the country must suffer.

Since the advent of the power milking machine it has been the tendency for many dairymen to install one of these machines, and then double their herds, not stopping to figure whether the present herd was paying the profit it should. We believe in the use of power milkers and other labor-saving machinery, and also believe in taking care of them, not because they will allow the farmer to double his operations but because they give him the time necessary to do his work better. No man ever got ahead by trying to see just how much work he could do; but by how much good work he could do, and it is impossible for any man to do very good work when caring for a bunch of low-producing scrub cows. It can't be done.

We offer the following suggestions as a partial solution of the dairy problems of today.

Use only the best methods of Feeding, Breeding and caring for the dairy cow. She is a delicate machine and needs close attention.

Keep books on what your cows are doing and on what it costs for them to do it, and if they show that a cow is an unprofitable producer, sell her at once and stop future losses.

Grandin's Stock Food In the Home Mixture

400 lbs.	41% Cottonseed Meal
200 lbs.	Wheat Bran
900 lbs.	Grandin's Stock Food
500 lbs.	Twin Six Dairy Feed



GRANDIN'S TWIN SIX DAIRY FEED GRAND-IN-QUALITY



GUARANTEED ANALYSIS

Protein	not less than	22%
Fat	not less than	5%
Fiber	not more than	12%
Carbohydrates		50%

MANUFACTURED FROM:

Linseed Oil Meal, Cottonseed Meal, Cocoanut Oil Meal, Corn Gluten Feed, Wheat Bran, Wheat Middlings, Corn Meal, Corn Feed Meal, Hominy Feed, Alfalfa Meal and one half of one per cent of Salt. (Wheat Bran and Wheat Middlings may contain ground screenings not exceeding mill run.)

This is a dairy ration made up from eleven high quality ingredients so blended and proportioned as to get the most feed value out of each and most milk from all. It has the highest percentage of digestibility of any Dairy Ration sold and we have never heard of a cow that refused to eat it, or do her best while being fed on it. It is a completely grain ration and needs no remodeling, but if you are a believer of home mixed rations, you could improve such a ration by substituting Twin Six for Gluten Feed.

Twin Six is not a molasses feed, and we can see no object in making it one, as we believe you can buy molasses cheaper in a barrel than you can in any dairy feed, and take no chances of paying for something you don't get.

We guarantee that Twin Six will make more milk, more butter fat and better conditioned cows than any other combination of feeds ever put together. Make us prove this statement to your own satisfaction.

If your dealer does not sell Grandin's Red Flag Dairy Feeds please notify us, stating the number of cows you keep and we will see that you are supplied.

You Can Raise Fine Calves On Twin Six

During the past year the writer has had the pleasure of visiting several hundred dairymen in Maine, New Hampshire, Vermont and Massachusetts and he has found a great many of these men raising their calves on Twin Six. They start feeding it to them as soon as they will eat dry grain, and in several cases found large husky calves that had no milk after they were a few weeks old. Although we never intended Twin Six for a calf feed, we would suggest that you give it a trial, and we feel sure you will be surprised at the excellent results you will get from its use in this way.

Table For Feeding Twin Six Dairy Feed

Milk Given Qts.	Twin Six Qts.	Corn Silage Lbs.	Hay Lbs.
8	7	25	7
9	8	28	8
10	9	32	9
12	10	35	10
14	11	39	11
16	12	42	12
18	13	46	13
20	14	49	14
23	15	53	15
25	16	56	16

If no silage is used, feed double the amount of hay shown above. These figures are for **DAILY** yield and feed—not each milking.

We believe that every farmer should keep a careful record of the amount of milk which his cows produce. It will only require a few minutes daily, but will mean a great many dollars in increased profits.

We have on hand a supply of **TWIN SIX** milk sheets, with space for fourteen cows, which we will gladly furnish you upon request to the D. H. Grandin Milling Co., Jamestown, N. Y.



GRANDIN'S MILK MAKER WITH BEET PULP



GUARANTEED ANALYSIS

Protein	not less than 20%
Fat	not less than 5%
Fiber	not more than 12%
Carbohydrates	50%

MANUFACTURED FROM:

Linseed Oil Meal, Cottonseed Meal, Coconut Oil Meal, Wheat Bran, Wheat Middlings, Corn Meal, Corn Feed Meal, Hominy Feed, Beet Pulp and one half of one percent of Salt. (Wheat Bran and Wheat Middlings may contain ground screenings not exceeding mill run.)

Some authorities claim that a grain ration containing 20% Protein is the most profitable ration for dairy cows, and judging from the large and increasing demand for Grandin's Milk Maker with Beet Pulp a great many farmers must agree with them. Some even go so far as to say, "It is the best ration that we make." This ration contains a large amount of dried beet pulp, which is a very good substitute for silage and green feed, and we recommend it more particularly to dairymen who are short of the above mentioned roughage.

We guarantee Grandin's Milk Maker to be a strictly high class dairy ration and it should not be confused with certain other 20% protein feeds, which are made up principally from ground screenings, oat hulls, and molasses. It will produce an abundant flow of milk, keep your cows in fine condition, and we are sure that you will be well satisfied with results obtained from the use of this ration.

Milk Maker should be fed rather liberally, about one pound to each three pounds of milk.



GRANDIN'S 24% BALANCED DAIRY RATION



GUARANTEED ANALYSIS

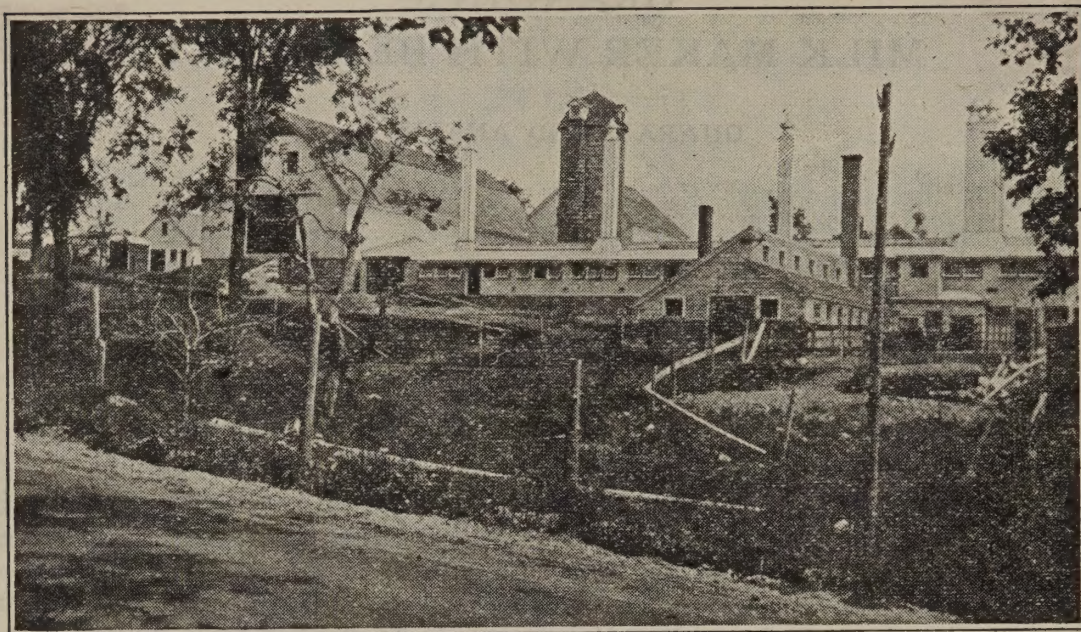
Protein	not less than 24%
Fat	not less than 5%
Fiber	not more than 10%
Carbohydrates	50%

MANUFACTURED FROM:

Distillers Dried Grains, Cottonseed Meal, Coconut Oil Meal, Linseed Oil Meal, Corn Gluten Feed, Wheat Bran, Wheat Middlings, Hominy Meal and a small percentage of Salt. (Wheat Bran and Wheat Middlings may contain ground screenings not exceeding mill run.)

We manufacture this ration more particularly for the dairyman who has a poor class of roughage, and therefore finds it necessary to feed more protein than his more fortunate neighbor who has a good supply of corn ensilage and clover hay.

This ration is made up on a Distillers' Dried Grain base and contains no oat hull or other filler. It is a strictly high class feed in every way, and contains enough fat and carbohydrates to keep the cows in excellent condition. It is being used in all sections of the east, and we feel safe in saying that there is no other 24% ration being sold that will give better satisfaction.



The new dairy barn at The Morey Farm, Mechanic Falls, Maine. They breed some very fine Guernsey stock on this farm and will have several on official test this winter, which will be fed on Twin Six.

DON'T WAIT TOO LONG BEFORE STARTING TO GRAIN

If you have not already started graining your cows, it would be a good idea to start at once. Don't wait too long. In order that cows freshening in the fall may do well all winter, they must have a good supply of grain before coming to the barn. This is needed to make up for the poor quality roughage they will get at pasture from now on.

The most successful dairymen that we know feed grain the year around, others not quite so successful stop feeding it a few months in summer, and those which are continually hard up feed very little grain at any time of the year. They may feed some grain in the winter, but their cows are in such poor physical condition that this grain is nearly all used in building up their bodies and before they get in good condition their owners have decided that it doesn't pay to feed grain, and have stopped.

We believe that the best way to start a fresh cow on grain is to begin feeding her one pound each of Twin Six Dairy Feed and Bran, morning and night, then gradually increase these feeds until she is eating six pounds of each, then begin increasing the Twin Six and decreasing the Bran until she is eating twelve pounds of Twin and no Bran. If her udder is all right, no swelling or inflammation, she should be on full feed in two weeks after freshening, and after two weeks of this feeding should be milking forty-five or fifty pounds of milk if a Holstein or Ayrshire and from thirty-five to forty pounds if a Jersey or Guernsey. If after two weeks of full feed she does not reach this amount of milk daily, start gradually decreasing the grain until you get a corresponding drop in milk. If she milks more than the amounts stated above, gradually increase the Twin Six until you are feeding about one to four for the heavy milking breeds and one to three for the high testing ones.

Always feed grain before milking and hay after, and if you have ensilage or roots feed these at noon. Cows fed on Twin Six and fed the amounts which we recommended will not require nearly as much hay as when, less grain is used, and they will keep in better condition, give more milk, and pay more profit than when fed some other way. Of course if you have some exceptionally nice hay, such as early cut clover and have ensilage that was well eared it will not be necessary to feed quite so heavily on grain.

BREEDING GUIDE FOR FARM ANIMALS

Date of Service	Mare Will Foal	Cow Will Freshen	Lamb	Sow Will Farrow
Jan. 1	Dec. 6	Oct. 10	May 30	Apr. 22
Jan. 6	Dec. 11	Oct. 15	June 4	Apr. 27
Jan. 11	Dec. 16	Oct. 20	June 9	May 2
Jan. 16	Dec. 21	Oct. 25	June 14	May 7
Jan. 21	Dec. 25	Oct. 30	June 19	May 12
Jan. 26	Dec. 31	Nov. 4	June 24	May 17
Jan. 31	Jan. 5	Nov. 9	June 29	May 22
Feb. 5	Jan. 10	Nov. 14	July 4	May 27
Feb. 10	Jan. 15	Nov. 19	July 9	June 1
Feb. 15	Jan. 20	Nov. 24	July 14	June 6
Feb. 20	Jan. 25	Nov. 29	July 19	June 11
Feb. 25	Jan. 30	Dec. 4	July 24	June 16
Mar. 2	Feb. 4	Dec. 9	July 29	June 21
Mar. 7	Feb. 9	Dec. 14	Aug. 3	June 26
Mar. 12	Feb. 14	Dec. 19	Aug. 8	July 1
Mar. 17	Feb. 19	Dec. 24	Aug. 13	July 6
Mar. 22	Feb. 24	Dec. 29	Aug. 18	July 11
Mar. 27	Mar. 1	Jan. 3	Aug. 23	July 16
Apr. 1	Mar. 6	Jan. 8	Aug. 28	July 21
Apr. 6	Mar. 11	Jan. 13	Sept. 2	July 26
Apr. 11	Mar. 16	Jan. 18	Sept. 7	July 31
Apr. 16	Mar. 21	Jan. 23	Sept. 12	Aug. 5
Apr. 21	Mar. 26	Jan. 28	Sept. 17	Aug. 10
Apr. 26	Mar. 31	Feb. 2	Sept. 22	Aug. 15
May 1	Apr. 5	Feb. 7	Sept. 27	Aug. 20
May 6	Apr. 10	Feb. 12	Oct. 2	Aug. 25
May 11	Apr. 15	Feb. 17	Oct. 7	Aug. 30
May 16	Apr. 20	Feb. 22	Oct. 12	Sept. 4
May 21	Apr. 25	Feb. 27	Oct. 17	Sept. 9
May 26	Apr. 30	Mar. 4	Oct. 22	Sept. 14
May 31	May 5	Mar. 9	Oct. 27	Sept. 19
June 5	May 10	Mar. 14	Nov. 1	Sept. 24
June 10	May 15	Mar. 19	Nov. 6	Sept. 29
June 15	May 20	Mar. 24	Nov. 11	Oct. 4
June 20	May 25	Mar. 29	Nov. 16	Oct. 9
June 25	May 30	Apr. 3	Nov. 21	Oct. 14
June 30	June 4	Apr. 8	Nov. 26	Oct. 19
July 5	June 9	Apr. 13	Dec. 1	Oct. 24
July 10	June 14	Apr. 18	Dec. 6	Oct. 29
July 15	June 19	Apr. 23	Dec. 11	Nov. 3
July 20	June 24	Apr. 28	Dec. 16	Nov. 8
July 25	June 29	May 3	Dec. 21	Nov. 13
July 30	July 4	May 8	Dec. 26	Nov. 18
Aug. 4	July 9	May 13	Dec. 31	Nov. 23
Aug. 9	July 14	May 18	Jan. 5	Nov. 28
Aug. 14	July 19	May 23	Jan. 10	Dec. 3
Aug. 19	July 24	May 28	Jan. 15	Dec. 8
Aug. 24	July 29	June 2	Jan. 20	Dec. 13
Aug. 29	Aug. 3	June 7	Jan. 25	Dec. 18
Sept. 3	Aug. 8	June 12	Jan. 30	Dec. 23
Sept. 8	Aug. 13	June 17	Feb. 4	Dec. 28
Sept. 13	Aug. 18	June 22	Feb. 9	Jan. 2
Sept. 18	Aug. 23	June 27	Feb. 14	Jan. 7
Sept. 23	Aug. 28	July 2	Feb. 19	Jan. 12
Sept. 28	Sept. 2	July 7	Feb. 24	Jan. 17
Oct. 3	Sept. 7	July 12	Mar. 1	Jan. 22
Oct. 8	Sept. 12	July 17	Mar. 6	Jan. 27
Oct. 13	Sept. 17	July 22	Mar. 11	Feb. 1
Oct. 18	Sept. 22	July 27	Mar. 16	Feb. 6
Oct. 23	Sept. 27	Aug. 1	Mar. 21	Feb. 11
Oct. 28	Oct. 2	Aug. 6	Mar. 26	Feb. 16
Nov. 2	Oct. 7	Aug. 11	Mar. 31	Feb. 21
Nov. 7	Oct. 12	Aug. 16	Apr. 5	Feb. 26
Nov. 12	Oct. 17	Aug. 21	Apr. 10	Mar. 3
Nov. 17	Oct. 22	Aug. 26	Apr. 15	Mar. 8
Nov. 22	Oct. 27	Aug. 31	Apr. 20	Mar. 13
Nov. 27	Oct. 31	Sept. 5	Apr. 25	Mar. 18
Dec. 2	Nov. 6	Sept. 10	Apr. 30	Mar. 23
Dec. 7	Nov. 11	Sept. 15	May 5	Mar. 28
Dec. 12	Nov. 16	Sept. 20	May 10	Apr. 2
Dec. 17	Nov. 21	Sept. 25	May 15	Apr. 7
Dec. 22	Nov. 26	Sept. 30	May 20	Apr. 12
Dec. 27	Dec. 1	Oct. 5	May 25	Apr. 17
Dec. 31	Dec. 5	Oct. 9	May 30	Apr. 21

HORSES:	Periods: 48½ weeks or 340 days.	Extremes: 307 and 412 days.
CATTLE:	Periods: 40½ weeks or 283 days.	Extremes: 240 and 311 days.
SHEEP:	Periods: 22 weeks or 150 days.	Extremes: 146 and 157 days.
SWINE:	Periods: 16 weeks or 112 days.	Extremes: 109 and 120 days.

The Home of Grandin's Red Flag Feeds
D.H.GRANDIN MILLING COMPANY, JAMESTOWN, N.Y.

